



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/020,161	12/18/2001	Kazuya Suzuki	0229-0681P	9259

2292 7590 03/28/2005

BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

EXAMINER

KNABLE, GEOFFREY L

ART UNIT	PAPER NUMBER
----------	--------------

1733

DATE MAILED: 03/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/020,161

Applicant(s)

SUZUKI, KAZUYA

Examiner

Geoffrey L. Knable

Art Unit

1733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 22-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 22-24, 28-34 and 37-40 is/are rejected.
- 7) ☒ Claim(s) 25-27, 35 and 36 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Art Unit: 1733

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 9, 2005 has been entered.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 22, 30, 32 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kumagai (US 4,875,959) taken in view of Minami et al. (US 5,688,343) and/or Smithkey, Jr. (US 3,657,039) and further in view of Sergel et al. (US 5,582,664) and optionally Oku et al. (US 5,186,773 - newly cited).

These references are applied for substantially the same reasons as applied against analogous claims in the last office action. As to the new reference in claim 22 to making "at least one of annular rubber components including ...", it is first noted that this reads on forming any annular rubber component in a tire and not just the specifically listed components (note the open language "including"). Further, and in any event, it is also noted that the member assembly in Kumagai forms a chafer which would correspond to the claimed "bead rubber" (a chafer being that part of the tire that will contact the rim and thus covers the axially outer surface and bottom surface of the bead portion). Oku et al. was cited merely as further evidence that the artisan is well aware

Art Unit: 1733

of the desire and effect of spreading out joint portions among tire layers in terms of reducing tire force variations.

4. Claims 22, 29, 32 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over [JP 4-101835 to Yokohama (newly cited) or JP 7-40459 (newly cited) to Bridgestone] taken in light of Lin et al. (US 5,040,583 - newly cited).

JP '835 (note esp. figs. 1-2 and abstract) and JP '459 (note esp. fig. 1 and abstract) each teach forming the tire innerliner from plural plies that are laminated so as to have displaced circumferential ends which are then butt jointed to form the annular tire innerliner, this being described in the abstract of each reference as improving tire uniformity. To build a green tire including the claimed components (as extremely well known and typical) that additionally includes an innerliner as described by the JP references is therefore considered to have been obvious. Further, a determination of the desired degree of relative displacement is implicit in, or certainly obvious from, the reference teachings. Although the innerliner is not mentioned as one of the annular components being built in claim 22, it is again noted that claim 22 reads on forming any annular rubber component in a tire and not just the specifically listed components (note the open language "including"). Claim 22 is thus considered obvious from these disclosures except it does not appear to expressly describe the strip thicknesses. It however is well known in this art that typical innerliner layers in a tire would be under the claimed 4 mm upper limit on each strip (e.g. note a typical innerliner for an auto tire is on the order of 60 mils (~1.5 mm) - see col. 1, lines 24-27 of Lin et al.)) and as such, selecting strips within the claimed thickness range would have been obvious. As to

claim 29, given that the strips define the same components, it is considered to have been typical and obvious to give the strips the same width as claimed. As to claims 32 and 38, JP '835 clearly describes the inner layer of the pair as a tie rubber which would have been expected to have a different composition, it in any event being well known that tire innerliner rubber (typically butyl) presents bonding problems with the adjacent carcass rubbers due in part to different degrees of polymer saturation which can be conventionally overcome using intermediate layers of special composition - such would have been obvious in any innerliner structure and especially ones using multiple layers and would have been expected to provide the ability to enhance cured adhesion.

5. Claims 22, 24, 28, 30-32, 34, 37, 39 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Riggs (US 4,276,104) taken in view of Costemalle et al. (US 5,376,438) and Steinle (US 2,649,134 - newly cited) and optionally Oku et al. (US 5,186,773 - newly cited).

These references are applied for substantially the same reasons as set forth in the last office action against the analogous claims. Steinle has been additionally cited to provide further evidence of the artisans known desire to prelaminated multi-layer sidewalls with an expectation of an ability to provide improved bonding between the layers. As to the new reference in claim 22 to making "at least one of annular rubber components including ...", it is first noted that this reads on forming any annular rubber component in a tire and not just the specifically listed components (note the open language "including"). Further, and in any event, the member assembly in Riggs can form the sidewall as previously noted. Oku et al. was cited merely as further evidence

Art Unit: 1733

that the artisan is well aware of the desire and effect of spreading out joint portions among tire layers in terms of reducing tire force variations.

6. Claims 22, 23, 28, 30, 32, 33, 37 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morris (US 1,353,934 - newly cited) taken in view of at least one of [Deist (US 3,223,573) and JP 62-279104 to Bridgestone (newly cited)] and Montagne (US 3,907,019) and optionally Oku et al. (US 5,186,773 - newly cited).

Morris discloses pre-building a tire tread laminate prior to application to the tire building drum but does not suggest the relatively displaced ends of the layers as claimed. It however is submitted that the ordinary artisan would have found it to have been prima facie obvious to stagger the joints around the circumference in order to avoid material build-up at any particular location on the circumference, reference being made for example to Deist as evidence of this known expedient - note col. 2, lines 22-32. JP '104 similarly suggests that it is advantageous to space the joints in a tread laminate. Oku et al. is cited as further evidence that the artisan is well aware of the desire and effect of spreading out joint portions among tire layers in terms of reducing tire force variations. To build a green tire including the claimed components (as extremely well known and typical) that additionally includes a laminated tread with staggered tread joints is therefore considered to have been obvious. Further, a "determination" of the desired degree of relative displacement is implicit in, or certainly obvious from, the reference teachings of providing stagger. Claim 22 is thus considered obvious from these disclosures except it does not expressly describe the strip thicknesses. However, in light of Montagne, also directed to forming a laminated tread

Art Unit: 1733

from superimposed strips, strips thicknesses as claimed are known to be suitable and effective - note esp. col. 4, lines 55-57 and col. 6, lines 40-44, this being considered to provide suitable guidance and motivation to the artisan to select a strip thickness within the claimed range.

As to the degree of stagger, Deist suggests staggering the ends to avoid material build-up at any given point on the circumference but does not describe an actual angle of offset while JP '104 suggests an angle of 180 degrees for two layers and Oku et al. suggests various angles in between. It is submitted therefore that a degree of shift of greater than 15 degrees up to 180 degrees would have been obvious to ensure that sufficient space is provided between the joints. As to the claimed different layer compositions, it is extremely well known and common in this art to provide the tread to include different compounds, e.g. for the cap and base tread portions, for well known performance advantages, use of such being therefore obvious. Note also that Deist clearly suggests use of different compounds for the different strips.

7. Claims 25-27, 35 and 36 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The closest prior art does not reasonably teach or render obvious a method as defined in claim 22 where the annular component is the bead apex rubber defined as in the noted claims. Although Harsel (US 1,406,855) shows what is described as a laminated filler "43", there is no suggestion to stagger the ends and further this element is apparently within the bead core and thus it is not considered that this would

Art Unit: 1733

reasonably be considered the same as a "bead apex rubber" disposed between a carcass ply turn-up and carcass ply main portions as claimed, it being understood that such bead apexes are located above and the bead core rather than within it.

8. Applicant's arguments filed 2-9-2005 have been considered but are in most cases moot in view of the new ground(s) of rejection.


With respect to Kumagai, it is argued that the method of claim 22 provides unexpected results in terms of improved radial force variation. It is noted however that it seems well understood in this art that staggering joints would have been expected to provide improved tire uniformity and thus it is not clear that this is an unexpected result. Further and in any event, Kumagai clearly suggest staggering the joints and thus would be expected to also have improved uniformity. Other arguments are presented relative to the now claimed particular components, it being noted however that new rejections have been applied to address each of the various components (except for the bead apex rubber, the prior art rejections being withdrawn for this component).

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey L. Knable whose telephone number is 571-272-1220. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on 571-272-1156. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1733

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Geoffrey L. Knable
Primary Examiner
Art Unit 1733

G. Knable
March 19, 2005